

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

BUTAMAX™ ADVANCED BIOFUELS)
LLC)

Plaintiff,)

v.)

GEVO INC.,)

Defendant.)

Civ. No. 12-1036-SLR
12-1200-SLR
12-1300-SLR

MEMORANDUM ORDER

At Wilmington this 3rd day of February, 2015, having heard argument on, and having reviewed the papers submitted in connection with, the parties' proposed claim construction;

IT IS ORDERED that the disputed claim language of U.S. Patent Nos. 8,241,878 ("the '878 patent"), 8,273,558 ("the '558 patent"), and 8,735,144 ("the '144 patent") shall be construed consistent with the tenets of claim construction set forth by the United States Court of Appeals for the Federal Circuit in *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005), as follows:

1. **"Having at least 95% identity to:"**¹ "At least 95% of amino acid units in the sequence match in an alignment with a reference sequence." The specification explains that:

The term "percent identity," as known in the art, is a relationship between two or more polypeptide sequences or two or more polynucleotide sequences, as determined by comparing the sequences. In the art, "identity" also means the degree of sequence relatedness between

¹ Found in claim 1 of the '878 patent.

polypeptide or polynucleotide sequences, as the case may be, as determined by the match between strings of such sequences. “Identity” and “similarity” can be readily calculated by known methods, including but not limited to those described in [the following five references].

(‘878 patent, 11:11-17) In describing preferred methods, the specification states that “[m]ethods to determine identity and similarity are codified in publicly available computer programs. Sequence alignments and percent identity calculations may be performed using the MegAlign™ program” (*Id.* at 11:30-35) The United States Patent Office’s training manual discusses limitations using the language “percent identity” and presents a sample allowable claim which recites: “An isolated nucleic acid that encodes a polypeptide with at least 85% amino acid sequence identity to SEQ ID NO: 2.” (D.I. 85, ex. 11) Gevo argues that the limitation is indefinite as the specification does not call out a particular method of calculation, instead referring the person of ordinary skill in the art to a number of methods. More particularly, Gevo asserts that even the methods identified as preferred employ different ways to perform the “% identity” calculation. (D.I. 126 at 10-16) Whether a person of skill in the art would reasonably be apprised of the limitations of the invention in the case at bar, however, is better left to a substantive motion practice after discovery.

2. **“Comprising genes encoding an engineered isobutanol biosynthetic pathway:”**² “Includes DNA that, when expressed in the host, forms an enzyme pathway to produce isobutanol, which includes recombinantly expressed enzymes recited in the claims.” The parties agree that the steps of the pathway must be performed in sequence. As indicated by the construction, the claim’s use of

² Found in claim 1 of the ‘144 patent and claim 1 of the ‘558 patent.

“comprising” reflects that the claimed pathway can be used as part of a larger process, and additional steps might be performed before or after. (D.I. 83 at 19-20)

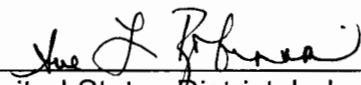
3. **“Increases the production of isobutanol as compared to naturally occurring amounts of isobutanol made by unmodified yeast:”**³ “The amount of isobutanol made by the accused recombinant strain is greater than the amount of isobutanol made by an equivalent strain of yeast not having the recombinant modifications.” The ‘558 specification describes that “‘transformation’ refers to the transfer of a nucleic acid fragment into a host organism, resulting in genetically stable inheritance. Host organisms containing the transformed nucleic acid fragments are referred to as . . . ‘recombinant’ . . . organisms.” (‘558 patent, 12:38-43) As explained by Butamax’s expert, a “host” “is genetically modified to add the recited isobutanol biosynthetic pathway,” thus, the “unmodified host . . . is compared when assessing the improved performance of a recombinant microorganism.” (D.I.174 at ¶ 39) The court concludes that Butamax’s argument is more persuasive, that is, that a person of ordinary skill in the art (a scientist)⁴ would compare a modified recombinant yeast to a corresponding yeast without such recombinant modifications. The claim limitation is not indefinite.

³ Found in claim 1 of the ‘144 patent and claim 1 of the ‘558 patent.

⁴ Butamax’s expert defines the person of ordinary skill in the art as having “a Ph.D. in molecular biology, microbiology, chemistry, biochemistry, or a related field, and a few years of practical experience in the fields of metabolism, biotechnology, or genetic engineering.” (D.I. 84 at ¶ 8) One of Gevo’s experts defined such a person in a similar fashion as having “a Ph.D. in the fields of bioinformatics, molecular biology, biochemistry, or protein chemistry.” (D.I. 127 at ¶ 21)

4. **“Said recombinant yeast host cell is capable of producing isobutanol through the substrate to product conversions of (a) to (c):”**⁵ “The claimed host cell has the ability to produce isobutanol through the substrate to product conversions recited previously in the claim.” Contrary to Gevo’s suggestion, the court declines to depart from the plain meaning of the disputed language “capable of” in defining this limitation. However, claim 1 recites in part “wherein said isobutanol biosynthetic pathway **increases the production of isobutanol** as compared to naturally occurring amounts of isobutanol made by unmodified yeast” (‘558 patent, 69:45-48 (emphasis added)) In order to increase the production of isobutanol produced, isobutanol must **actually be produced**, therefore, the plain language of the claim read as a whole requires the production of isobutanol. Similarly, claim 1 of the ‘144 patent recites “a method for the production of isobutanol,” thus requiring the production of isobutanol. (‘144 patent, 331:52)

5. The court has provided a construction in quotes for the claim limitations at issue. The parties are expected to present the claim construction to the jury consistently with any explanation or clarification herein provided by the court, even if such language is not included within the quotes.


United States District Judge

⁵ Found in claim 1 of the ‘144 patent and claim 1 of the ‘558 patent.